LPDES PERMIT NO. LA0004090 (Agency Interest No. 3085)

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Ethyl Corporation
P.O. Box 341
Baton Rouge, Louisiana 70821

II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Water Permits Division
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. Prepared By: Melanie Beard Connor
Industrial Water Permits Section
Water Permits Division
Phone #: (225) 219-3088
Fax #: (225) 219-3309
E-mail: melanie.connor@la.gov

Date Prepared: April 23, 2007

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2365/40 CFR 122.46*.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, and 405-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX. Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

B. LPDES permit: Permit effective date: December 1, 2001
Permit expiration date: November 30, 2006
EPA has not retained enforcement authority.

C. LPDES application received on June 1, 2006.

V. Facility Information:

A. Location – Gulf States Road, Baton Rouge, East Baton Rouge Parish

B. Applicant Activity -

Ethyl Corporation's Baton Rouge facility ceased operations in 1985. All of the facilities buildings and process units were dismantled. Since the facility has been closed, Ethyl has been performing activities associated with the assessment and remediation of groundwater at the site. Groundwater is being pumped from recovery groundwater wells and the D-2 Landfill French Drain System and treated onsite.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, and 405 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
By BPJ for certain organics and lead:	
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414 (Subparts H and J)
Process flow – 0.044 MGD (30-day max)	

Other sources of technology based limits:

- LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
- Best Professional Judgement

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: III, Table 1 of LAC 33:IX.1319 Table 1 does not have a complexity listed for SIC 9500. The complexity in the previous permit was Type III. This complexity has been retained in the draft permit.
3. Wastewater Type: II
4. SIC code: 9500

E. Facility Effluent Flow – 0.044 MGD (30-day max)

VI. Receiving Waters: Monte Sano Bayou

A. TSS (15%), mg/L: 22.8 mg/l*
B. Average Hardness, mg/L $CaCO_3$: 148.46 mg/l*
C. Critical Flow, cfs: 25.442*
D. Mixing Zone Fraction: 1
E. Harmonic Mean Flow, cfs: 29.495*
F. River Basin: Mississippi River, Segment No.: 070504
G. Designated Uses: secondary contact recreation, and limited aquatic life and wildlife use

* Stream data based upon the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11, and from recommendations from the Engineering Section. Critical flow and harmonic mean information come from Max Forbes on a memo dated September 1, 2005. Hardness and 15% TSS data come from sampling site no. 1115 at Scenic Highway just south of DSM Copolymer, 1.2 miles south of Scotlandville.

VII. Outfall Information:

Outfall 001

A. Type of wastewater – Treated groundwater remediation wastewater

B. Location – At the point of discharge from the wastewater treatment system prior to combining with other waters (Latitude 30°29'00", Longitude 91°11'00").

C. Treatment – carbon filters, bio remediation, aeration

D. Flow – 0.044 MGD (30-day max flow – The highest monthly average reported on DMRs between Jan. 2005 and Feb. 2007)

E. Receiving waters – Monte Sano Bayou

F. Basin and segment – Mississippi River Basin, Segment 070504

G. Estimated effluent data – See Appendix A

Outfall 002

A. Type of wastewater – Non-process area stormwater runoff

B. Location – At the point of discharge from the 54" culvert from North Lake prior to combining with other waters (Latitude 30°29'00", Longitude 91°11'00").

C. Treatment – Sedimentation

D. Flow – varies with rainfall

E. Receiving waters – Monte Sano Bayou

F. Basin and segment – Mississippi River Basin, Segment 070504

G. Estimated effluent data – See Appendix A

VIII. Proposed Permit Limits and Rationale:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. CHANGES FROM PREVIOUS PERMIT

1. Outfall 001 – Mass limitations previously established in the permit have been converted to concentration because the flow from the facility is variable. Groundwater is pumped into tanks and sent through carbon filters prior to being discharged. Discharge occurs during business hours only.

2. Outfall 001 – The monitoring frequencies for Benzene, Chlorobenzene, Ethylbenzene, Toluene, and Methylene Chloride have been reduced to 1/quarter in accordance with the April, 1996, Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies.

B. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for the limitations established in the permit.

Ethyl Corporation's effluent limitations were established in accordance with Best Professional Judgment (BPJ). Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines were applied per BPJ (See below).

Manufacturing Operation	Guideline
- Organic chemical manufacturing	40 CFR 414, Subparts H and J

Proposed effluent limitations and basis of permit limitations are found below:

Outfall 001 - Treated groundwater remediation wastewater

EFFLUENT LIMITATIONS:

Paramater	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	---	0*	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	---	446*	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	Report (Min)	Report (Max)	Continuous	Recorder
BOD	45	120	1/month	24-hr. Composite
TSS	57	183	1/month	24-hr. Composite
METALS AND CYANIDE				
Total Lead	0.32	0.69	1/month	24-hr. Composite
VOLATILE COMPOUNDS				
Benzene	0.057	0.134	1/quarter	24-hr. Composite
Chlorobenzene	0.142	0.38	1/quarter	24-hr. Composite
1,1-Dichloroethane	0.022	0.059	1/month	24-hr. Composite
1,2-Dichloroethane	0.18	0.574	1/month	24-hr. Composite
Ethylbenzene	0.142	0.38	1/quarter	24-hr. Composite
Methylene Chloride	0.036	0.17	1/quarter	24-hr. Composite
Tetrachloroethylene	0.052	0.164	1/month	24-hr. Composite
Toluene	0.028	0.074	1/quarter	24-hr. Composite
1,1,2-Trichloroethane	0.032	0.127	1/month	24-hr. Composite
Trichloroethylene	0.026	0.069	1/month	24-hr. Composite
PESTICIDES				
Gamma-BHC (Lindane)	0.085	0.202	1/week	24-hr. Composite
WHOLE EFFLUENT TOXICITY TESTING				
48-hr. Acute**	---	---	1/quarter	24 hr. Composite

* The pH shall be within the range of 6.0 – 9.0 standard units at all times subject to continuous monitoring pH range excursion provisions. Where a permittee continuously measures the pH of wastewater as a requirement or option in an LPDES permit, the permittee shall maintain the pH of such wastewater within the range set forth in the permit, except that excursions from the range are permitted, provided:

1. The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

** See Section E below

EFFLUENT LIMITATIONS BASIS: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b. BOD limitations were not previously established in the permit but have been established by BPJ based on 40 CFR 414 Subpart H. Limitations for Gamma-BHC (Lindane) are based upon water quality. Limitations for all other parameters are based upon 40 CFR 414, Subparts H and J. The previous permit established mass limitations. The draft renewal permit proposes concentration limitations because the flow from the outfall is variable. Groundwater is pumped into tanks and sent through carbon filters prior to being discharged. Discharge occurs during business hours only.

Outfall 002 - Non-process area stormwater runoff

EFFLUENT LIMITATIONS:

Paramater	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	1/quarter	Estimate
TOC	---	50	1/quarter	Grab
pH Min/Max Values (Standard Units)	6.0 (Min)	9.0 (Max)	1/quarter	Grab
Total Lead	---	0.69	1/month	24-hr. Composite
1,1-Dichloroethane	---	0.059	1/month	24-hr. Composite
1,2-Dichloroethane	---	0.574	1/month	24-hr. Composite
Methylene Chloride	---	0.170	1/month	24-hr. Composite
1,1,1-Trichloroethane	---	0.059	1/month	24-hr. Composite

EFFLUENT LIMITATIONS BASIS: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b. All other parameters are based upon the previous permit and LDEQ's stormwater guidance [letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)], which indicates that if a potential exists for a toxic parameter to be discharged through a stormwater outfall, that toxic parameter shall receive a BPJ limitation based on the OCPSF guidelines (40 CFR 414), Subpart J.

C. MONITORING FREQUENCIES

The permittee requested that this Office delete the monitoring requirements for Benzene, Chlorobenzene, Ethylbenzene, Toluene, and Methylene Chloride from the permit. In accordance with LAC 33:IX.2707.L (antibacksliding), this Office can not delete these parameters from the permit, however after review of the facility's effluent data, this Office has determined that monitoring frequency reductions are warranted. The monitoring frequencies for Benzene, Chlorobenzene, Ethylbenzene, Toluene, and Methylene Chloride have been reduced to 1/quarter in accordance with the April, 1996, Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies. This guidance was prepared in response to the President's Regulatory Reinvention Initiative to reduce the reporting and monitoring burden on the regulated community. These monitoring frequency reductions have been established in the draft permit because the permittee has demonstrated an ability to consistently reduce pollutants in the discharge below the levels necessary to meet existing permit requirements for the respective outfalls. Two years of data was reviewed and the composite average of this data was compared to the permit limit to determine the potential monitoring frequency reduction.

The permittee further requested that the monitoring frequency for Gamma-BHC be reduced to 1/month. This Office has denied this request in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001; which requires a minimum monitoring frequency of 1/week for a water quality based parameter that has the potential for being present on site.

It was also requested by the permittee that this Office reduce the biomonitoring frequency at Outfall 001 to once per year. This request has been denied. The monitoring frequency of 1/quarter has been established in accordance with LDEQ's biomonitoring policy set forth by the *EPA Region VI Post-Third Round Whole Effluent Toxicity Testing Frequencies* guidance document. The permit does, however, include a condition allowing frequency reduction if the permittee can demonstrate successful completion of the first four consecutive quarters of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution (See Part I, Paragraph O.4.c of the draft permit).

Whole Effluent Toxicity testing frequency is based upon recommendations from the Municipal and General Water Permits Section (see Appendix C).

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limitations by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001.

In accordance with 40 CFR 122.44(d)(I)/LAC 33:IX.2707.D.1., the existing discharge was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limitations:

Gamma-BHC (Lindane)

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. They are also listed in Part II of the permit.

To further ensure compliance with 40 CFR 122.44(d)(I), whole effluent toxicity testing has been established for Outfall 001 (See Section E below).

E. BIOMONITORING REQUIREMENTS

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/quarter

NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/quarter
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Pimephales promelas	1/quarter
NOEC, Pass/Fail [0/1], Lethality, Static Renewal 48-Hour Acute, Daphnia pulex	1/quarter
NOEC, Value [%], Lethality, Static Renewal 48-Hour Acute Daphnia pulex	1/quarter
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Daphnia pulex	1/quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to this Office. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. The additional effluent concentrations shall be 1.3%, 1.7%, 2.3%, 3.0%, and 4.0% effluent. The low-flow effluent concentration (critical dilution) is defined as 3.0% effluent.

IX. Compliance History/DMR Review:

A. Compliance History – There are no open enforcement actions against the facility as of May 25, 2007.

B. DMR Review – Below is a summary of the excursions reported between January 2005 and March 2007):

Parameter	Outfall	Date	Limitation	Sample Result
pH range # events >60 min	001	11/30/05	0 events	1 event
pH range # events >60 min	001	9/30/06	0 events	1 event
pH range exc. Mthly total acc. Time in minutes	001	9/30/2006	446 min.	510 min.

IX. Endangered Species:

The receiving waterbody for discharges from Ethyl Corporation is Subsegment 070504 of the Mississippi River Basin. Segment 070504 is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any

endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

X. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XI. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

XII. Variances:

No requests for variances have been received by this Office.

XIII. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

A public notice will be published in a local newspaper of general circulation and in the Office of Environmental Services Public Notice Mailing List.

XIV. Stormwater Pollution Prevention Plan (SWP3) Requirements:

In accordance with LAC 33:IX.2707.I.3 and 4[40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all stormwater discharges from the facility, either through permitted outfalls, through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires implementation of a Storm Water Pollution Prevention Plan (SWP3) within

six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, that plan could be incorporated by reference into the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of storm water associated with industrial activity, as defined at LAC 33:IX.2511.B.14 [40 CFR 122.26(b)(14)].

XV. TMDL Waterbodies:

Ethyl Corporation discharges treated groundwater and stormwater to Monte Sano Bayou (Segment 070504). Segment 070504 is listed on LDEQ's Final 2004 303(d) List as impaired for Chlorine. To date no TMDLs have been completed. TMDLs are scheduled for completion by March 31, 2010, with an EPA backstop date of March 31, 2011.

Chlorine is not believed to be present in the discharges from Ethyl Corporation. Therefore, at this time no chlorine limitations have been established in the permit. A reopener clause will be established in the permit to allow the inclusion of more stringent or additional effluent limitations and requirements which may be imposed by future TMDLs.